



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,887	07/27/2006	Theodore W. Jochum	2512.1550001	2357

64562 7590 09/29/2008

STERNE KESSLER GOLDSTEIN & FOX, P.L.L.C.
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

KUNDU, SUJOY K

ART UNIT

PAPER NUMBER

2863

MAIL DATE

DELIVERY MODE

09/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/587,887

Applicant(s)

JOCHUM ET AL.

Examiner

SUJOY K. KUNDU

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 and 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Riley et al. (6,507,391) in view of Stokdijk (5,675,517).

With regards to Claim 1, 10, Riley teaches a method for measuring and analyzing data contained within pulses of an analog electronic signal derived from optical measurements in a flow cytometer, the electronic signal comprising a first data channel, the method characterized by comprising the steps of:

(c) sampling the transformed signal with an analog-to-digital converter so as to produce a digital signal (figure 6, Column 16, Lines 16-22); and

(d) analyzing the digital signal with an electronic processor (Column 16, Lines 22-23).

Riley does not teach the limitation of (a) removing a DC offset from the signal with a base line restoration circuit to obtain a baseline restored signal; and (b) transforming the baseline restored signal with a logarithmic amplifier.

Stokdijk teaches the limitation of (a) removing a DC offset from the signal with a base line restoration circuit to obtain a baseline restored signal (Column 5, Lines 49-51);

and (b) transforming the baseline restored signal with a logarithmic amplifier (Column 6, Lines 27-37).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the limitation of (a) removing a DC offset from the signal with a base line restoration circuit to obtain a baseline restored signal; and (b) transforming the baseline restored signal with a logarithmic amplifier as taught by Stokdijk into Riley for the purpose of eliminating signal distortion.

With regards to Claim 2, 11, Riley teaches the method, wherein the processor performs peak sample and hold analysis upon the digital signal (Column 16, Lines 20-23).

With regards to Claim 3, 12, Riley teaches the method, wherein the processor further analyzes a second digital signal comprising a second data channel of the flow cytometer (Column 16, Lines 41-53)

With regards to Claim 4, 13, Riley teaches the method, wherein the DC offset is locked during pulses of the electronic signal (Column 22, Lines 61-67).

With regards to Claim 5, 14, Riley teaches the method, characterized by comprising the further step, between the transforming step (b) and the sampling step (c) of calibrating a gain of the transformed signal (Column 16, Lines 12-40).

With regards to Claim 6, 15, Riley teaches the method, characterized by comprising the farther steps of:

(e) controlling a digital-to-analog converter based upon the signal analysis performed by the processor (Figure 6, Column 16, Lines 12-40); and

(f) inputting a DC voltage from the digital-to-analog converter to the baseline restoration circuit (Figure 6, Column 16, Lines 12-40).

With regards to Claim 7, 16, Riley teaches the method, wherein the processor calibrates for errors in the transformed signal output of the logarithmic amplifier (Figure 6, Column 16, Lines 13-16).

With regards to Claim 8, 17, Riley teaches the method, wherein the calibration is performed by means of a lookup table for correcting output values of the analog-to-digital converter (Column 25, Lines 37-44).

Claims 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Riley et al. (6,507,391) and Stokdijk (5,675,517) in view of Linz (5,598,158).

With regards to Claims 9 and 18, Riley and Stokdijk fail to teach the limitation of the method, wherein the analog-to-digital converter samples at a lower bit resolution than is required to analyze the signal prior to the transforming step (b).

Linz teaches the limitation of the method, wherein the analog-to-digital converter samples at a lower bit resolution than is required to analyze the signal prior to the transforming step (b).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the limitation of the method, wherein the analog-to-digital converter samples at a lower bit resolution than is required to analyze the signal prior to the transforming step (b) as taught by Linz into Riley and Stokdijk for the purpose of synchronizing all samples of data prior to correcting and detecting.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **SUJOY K. KUNDU** whose telephone number is (571)272-8586. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. K. K./
Examiner, Art Unit 2863

/Tung S. Lau/
Tung S. Lau, Art Unit 2863
Primary Examiner
September 25, 2008